

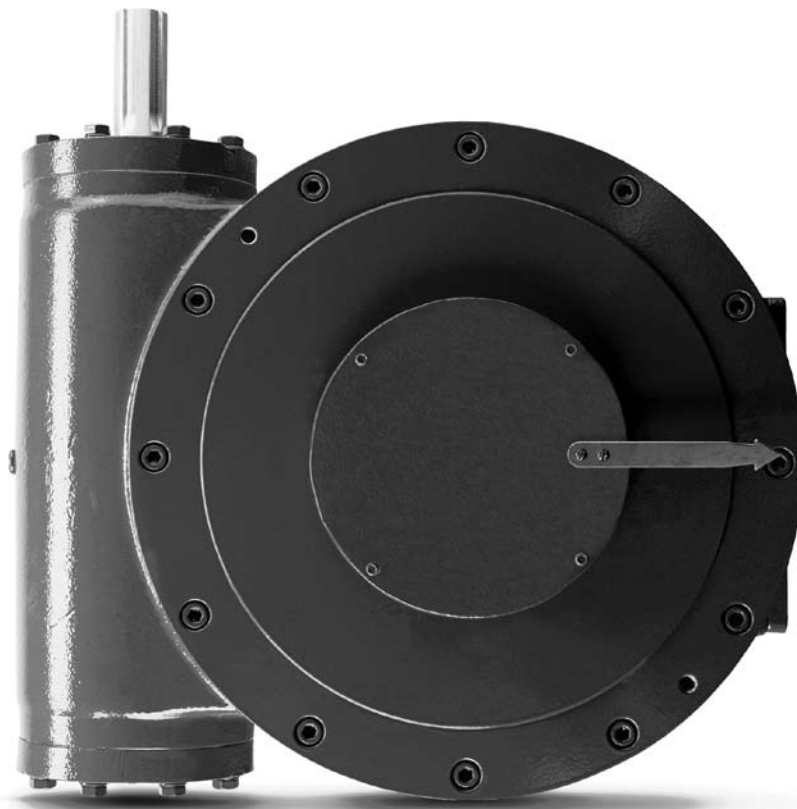


USER INSTRUCTIONS

Limitorque HBC Series

FCD LMENIM3501-00 – 04/07

*Installation
Operation
Maintenance*



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1 Introduction

1.1 Purpose

This installation, operation and maintenance manual (IOM) explains how to install and maintain the Flowserve Limatorque HBC operator. Information on installation, disassembly, reassembly, lubrication, and spare parts is provided.

1.2 User Safety

Safety notices in this manual detail precautions the user must take to reduce the risk of personal injury and damage to the equipment. The user must read and be familiar with these instructions before attempting installation, operation, or maintenance. Failure to observe these precautions could result in serious bodily injury, damage to the equipment, voiding of the warranty, or operational difficulty.

Safety notices are presented in this manual in three forms:

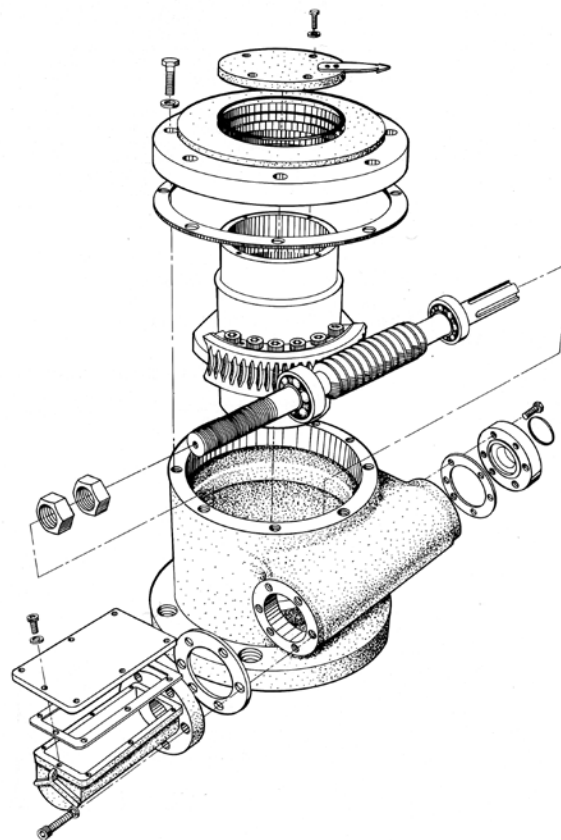
- ⚠ **WARNING:** Refers to personal safety. Alerts the user to potential danger. Failure to follow warning notices could result in personal injury or death.
- ⚠ **CAUTION:** Directs the user's attention to general precautions that, if not followed, could result in personal injury and/or equipment damage.

NOTE: Highlights information critical to the user's understanding of the HBC operator's installation and operation.

2

Inspection, Installation, and Mounting Procedures

Figure 2.1 – HBC-0 through -3 exploded view



⚠ **WARNING:** Do not manually operate the HBC operator with devices other than the installed handwheel or wrench nut. Using additive force devices (cheater bars, wheel wrenches, pipe wrenches, or other devices of this nature) on the operator handwheel or wrench nut may cause serious personal injury and/or damage to the operator or valve.

2.1 Initial Inspection and Storage Instructions

⚠ **WARNING:** Read this installation, operation and maintenance manual carefully and completely before attempting to store the operator. If an electric actuator is attached to the HBC manual operator, be aware of the electrical hazards. Consult the actuator installation, operation and maintenance manual for guidance.

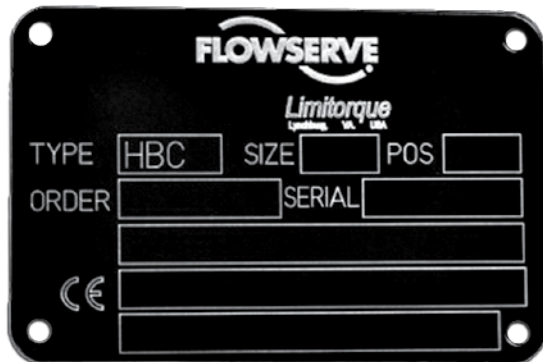
2.2 Inspection and Recording

Upon receipt of the operator, inspect the condition of the equipment, and record nameplate information.

1. Carefully remove the operator from shipping carton or skid. Thoroughly examine the equipment for any physical damage that may have occurred during shipment. If damaged, immediately report the damage to the transport company.
2. A nameplate is attached to each operator with the following information:
 - Operator size
 - Order number
 - Customer tagging
 - Operator serial number

Record this information for future reference, i.e., ordering parts, obtaining further information.

Figure 2.2 – HBC nameplate



2.3 Storage Procedure

NOTE: The following is the recommended storage procedure to retain maximum product integrity during storage. Failure to comply with recommended procedure will void the warranty.

Storage (Less Than One Year)

Store operators on wooden skids to protect the machined mounting flange. Place the wooden skids containing the operators in a clean, dry, protected warehouse. If the operators must be stored outside, they must be covered in polyethylene protection with silica gel crystals to absorb moisture. If an electric actuator is attached to the HBC, refer to the storage procedures in its respective manual for appropriate storage procedures. Rotate input shafts every three months to mix the lubricant.

2.4 General Mounting Instructions

▲ CAUTION: To avoid disengaging the worm gear segment, ensure that the index mark on the drive sleeve (centerline of gear segment) is oriented to the midpoint of the 90° valve travel. Full stroke rotation of this index mark should not move past the corresponding travel limit index marks on the housing cover. Should the housing cover index marks not be visible, the two housing cover bolts (“C” and “D”) can be used for this alignment. Refer to Figure 2.3.

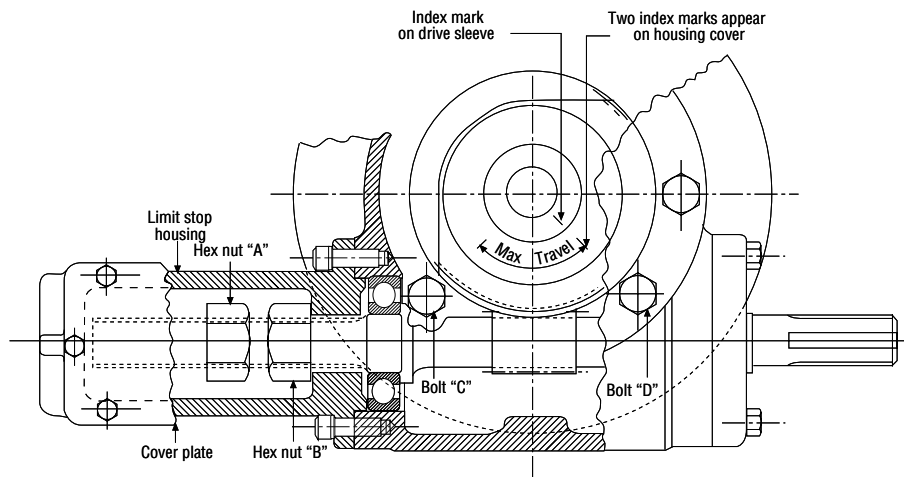
1. Place valve in full closed position.
2. Press splined adapter on valve shaft and insert key (should be a press fit to avoid splined adapter movement in HBC drive sleeve), or utilize a set screw to eliminate movement of splined adapter on the valve shaft.
3. Remove pointer cap from HBC operator.
4. Turn HBC operator input shaft to full closed position. The stops are preset for 90° travel. Be certain of correct direction of rotation.
5. Mount operator on valve and bolt securely. Be sure of operator stop alignment before engaging splines. (See angular displacement tolerances in Table 2.1.)
6. For standard stop setting instructions, see Section 2.5, Setting Position Limit Stops for HBC-0 through 3.
7. For operators with AWWA input shaft stop, see Section 5, Setting Instructions for AWWA Input Shaft Stop.

2.5 Setting Position Limit Stops for HBC-0 through -3

Refer to Figure 2.3.

1. With valve in full closed position, remove limit stop cover plate.
2. You will note two traveling hex nuts, “A” and “B.”
 - a. If hex nut “B” is near the position shown, run the hex nut hand-tight against the housing so that one of the flats of the hex nut is on top, facing the cover plate. (If hex nut “A” is near the opposite end of the limit stop housing, proceed with Step 4 first.)
 - b. If hex nut “A” or “B” hits the housing before the valve was tightly closed, back off the hex nut until the valve is tight and proceed as in Step 2a.
3. Replace the limit stop cover plate and turn the input shaft of the HBC operator to fully open the valve.
4. Remove the limit stop cover plate and check the position of hex nut “A.” This nut should be turned until it is flush up against the end of the limit stop housing and one of the flats of the nut is on top facing the limit stop housing cover plate.
5. Bolt the limit stop cover plate into position.

Figure 2.3 – Hex nut type stop (HBC-0 through -3)



2.6 Setting Position Limit Stops for HBC-4 through -10

Refer to Figure 4.2.

1. With the valve in the full closed position, remove Stop Screw Cover (piece #16).
2. Remove Lockscrew (piece #17).
3. Adjust appropriate Stop Screw (piece #17) based on rotation of the drive sleeve — inward if valve is closed and stop has not yet been reached, or outward if stop has been reached and valve is not yet fully closed.
4. Once the stop screw is set, lock securely with lockscrew.
5. Operate the valve to fully open position and set open stop in the same manner.

2.7 HBC Angular Displacement Tolerances

Table 2.1 – HBC angular displacement tolerances

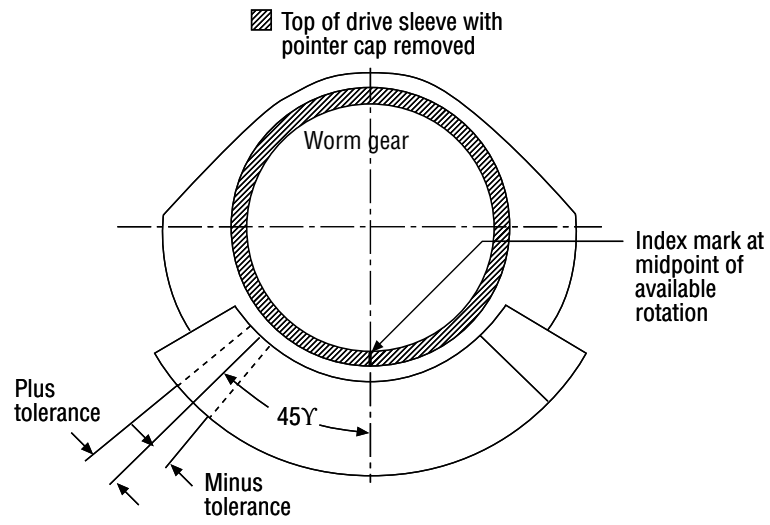
Operator Size	Angular Displacement		Splined Tooth
	Stop	Gear	Space in Degrees
HBC-0	105° 1	170° Gear Segment	9.00°
HBC-1	114° 1	170° Gear Segment	6.42°
HBC-2	114° 1	170° Gear Segment	4.50°
HBC-3	114° 1	170° Gear Segment 3	3.46°
HBC-4	±7° 2	±7°	3.00°
HBC-5	±6.75° 2	±6.75°	2.14°
HBC-6	±9° 2	±9°	1.80°
HBC-7	±9° 2	±9°	N/A

Note 1: Stops used on HBC-0 through HBC-3 incorporate standard hex nuts. The tolerance listed is ±.031 from basic size on the thickness. The data shown above is based on maximum thickness of both nuts.

Note 2: Displacement is based on 45° travel on either side of gear centerline.

Note 3: Operators with serial numbers less than S/N 365365 have 110° gear segments.

Figure 2.4 – Top of drive sleeve showing available rotation



3

Lubrication

Flowserve Limatorque HBC operators are factory-lubricated with an NLGI grade 0 calcium sulphonate grease suitable for a temperature range of -20°F to +150°F (-29°C to +60°C).

Quantity

Limatorque operators are built to operate on the partial immersion principle. The primary concern regarding the amount of lubricant is whether the “worm” is totally immersed in grease. This can be verified by the use of one or more of the many “fill” and “drain” plugs provided on the operator housing.

Quality

When removing a “fill” or “drain” plug to inspect the lubricant level, remove a small amount and ensure that it is clean and free of any contaminant including water. Should dirt, water, or other foreign matter be found, the operators should be flushed with a commercial degreaser/cleaner like Exxon VARSOL #1 or #3, which is non-corrosive and does not affect seal materials such as Buna-N or Viton. Repack operator with fresh lubricant.

Consistency

The main gear box lubricant should be slightly fluid, approximating a standard NLGI-0 grade consistency or less. Thinners such as Amoco WAYTAC #31 oil may be added provided the volume of thinner does not exceed 20% of the total lubricant.

Alternate lubricants may be used in place of the standard lubricants supplied by Flowserve provided they are a calcium sulphonate or similar lubricant.

CAUTION: Do not add a different lubricant to a Flowserve Limatorque operator unless it is of the same soap base as the existing lubricant, or you have received the approval of the lubricant manufacturer.

Table 3.1 – Lubricant weights

Operator Size	Amount of Lubricant		Approximate Weight	
	Approximate Volume		Approximate Weight	
	(gal.)	(L)	(lb)	(kg)
HBC-0	.20	.76	1.5	0.7
HBC-1	.35	1.32	3.0	1.4
HBC-2	.50	1.89	4.0	1.8
HBC-3	1.40	5.30	12.0	5.4
HBC-4	3.50	13.2	30.0	13.6
HBC-5	5.20	19.7	45.0	20.4
HBC-6	9.25	35.0	80.0	36.3
HBC-7	14.50	54.9	125.0	56.7
HBC-10	26.00	98.4	225.0	102.1

4 Disassembly and Reassembly Instructions

4.1 Safety Precautions

- ☠ **WARNING:** Read this Installation, Operation and Maintenance Manual carefully and completely before attempting to install, operate, or troubleshoot the Limitorque operator.
- ☠ **WARNING:** Potential HIGH PRESSURE vessel — be aware of high-pressure hazards associated with the attached valve or other actuated device when installing or performing maintenance on the operator. Do not remove the operator mounting bolts from the valve or actuated device unless the valve or device stem is secured or there is no pressure in the line.
- ☠ **WARNING:** For maintenance and/or disassembly of the operator while installed on the valve, ensure that the operator is not under thrust or torque load. If the valve must be left in service, the valve stem must be locked in such a way as to prevent any movement of the valve stem.
- ☠ **WARNING:** Do not manually operate the operator with devices other than the installed hand-wheel. Using force beyond the ratings of the operator and/or using additive force devices such as cheater bars, wheel wrenches, pipe wrenches, or other devices on the operator handwheel may cause serious personal injury and/or damage to the operator and valve.
- ☠ **WARNING:** Do not exceed any design limitations or make modifications to this equipment without first consulting Limitorque.
- ☠ **WARNING:** Use of the product must be suspended any time it fails to operate properly.
- ⚠ **CAUTION:** If a motor actuator is driving the manual operator, do not operate the valve under motor operation without first checking and setting the limit switch setting and checking for correct motor rotation.
- ⚠ **CAUTION:** Do not use replacement parts that are not genuine Flowserve Limitorque parts, as serious personal injury and/or damage to the operator and valve may result.

4.2 Safety Practices

The following check points should be performed to maintain safe operation of the HBC gear operator:

- Set up a periodic operating schedule on infrequently used valves.
- Ensure that the limit and/or torque switches on any electric actuator fitted to the HBC worm gear operator are correctly and appropriately adjusted.

4.3 HBC-0 through -3

Refer to Figure 4.1.

1. Remove Limit Stop Housing Cap (piece #20) and Gasket (piece #21).
2. Rotate Worm Shaft (piece #6) clockwise until Pointer Cap (piece #9) stops rotating.
3. Remove Pointer Cap (piece #9) and Housing Cover (piece #2).
4. Remove both Stop Nuts (piece #18) and Limit Stop Housing (piece #19).
5. Remove Through Cap (piece #4).
6. Remove Worm Shaft (piece #6) by rotating and pulling from Housing (piece #1). It may be necessary to maneuver the Bearing (piece #13) around the Drive Sleeve (piece #5), by rotating the drive sleeve slightly in the direction it was turning in Step 2. It is not necessary to remove the Bearing (piece #13) from Worm Shaft (piece #6).
7. Remove Drive Sleeve and Worm Gear (piece #5).

NOTE: In reassembling the operator, follow all of the above steps in the reverse order. Be sure you have located the center line of the Worm Gear (piece #5) before reinstalling the Housing Cover (piece #2).

NOTE: For reassembly of the worm shaft (step 6 of the disassembly procedure), be sure that end play does not exceed 0.015". This is accomplished by the proper combination of 0.015" and 0.030" gaskets on the stop housing side and input side of the gear housing.

Figure 4.1 – HBC-0 through -3 assembly

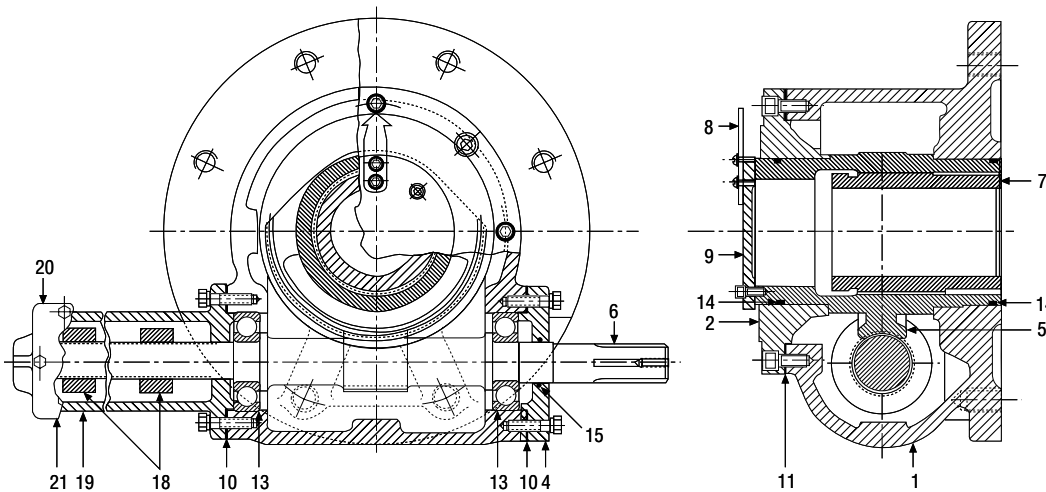


Table 4.1 – HBC-0 through -3 parts list (Refer to Figure 4.1)

Piece Number	Description
1	Housing
2	Housing Cover
4	Through Cap
5	Drive Sleeve and Worm Gear
6	Worm Shaft
7	Spline Adapter
8	Pointer
9	Pointer Cap
10	End and Through Cap Gasket
11	Housing Cover Gasket
13	Worm Shaft Bearing
14	Drive Sleeve O-ring
15	Worm Shaft O-ring
18	Hex Nut Stop
19	Limit Stop Housing
20	Limit Stop Housing Cap
21	Limit Stop Housing Gasket

4.4 HBC-4 through -10

Refer to Figure 4.2.

1. Remove Stop Screw Cover (piece #16).
2. Remove Lock Screw and Stop Screw (total 2 each, piece #17).
3. Rotate Worm Shaft (piece #6) full clockwise until Pointer Cap (piece # 9) stops rotating or until the Worm Shaft (piece #6) can no longer be turned.
4. Remove End Cap (piece #3) and Through Cap (piece #4).
5. Remove Pointer Cap (piece #9) and Housing Cover (piece #2).

6. Remove Worm Shaft (piece #6) by rotating and pulling from Housing (piece #1). It will be necessary to slightly rotate or cock the Drive Sleeve (piece #5) away from the worm in order to allow the Bearing (piece #13) to clear. It is not necessary to remove the Bearing (piece #13) from the Worm Shaft (piece #6).
7. Remove Drive Sleeve and Worm Gear (piece #5).

NOTE: To reassemble the operator, proceed in the reverse order listed above. In order to ensure good stop nut engagement at the end of travel, it is recommended that the stops be preset for 90° of rotation by establishing 45° rotation on either side of the worm gear center line while installing the stop screws. It will then be necessary to readjust the stops once the operator is on the valve; however, this will minimize the risk of disorienting the worm gear sector.

Figure 4.2 – HBC-4 through -10 assembly

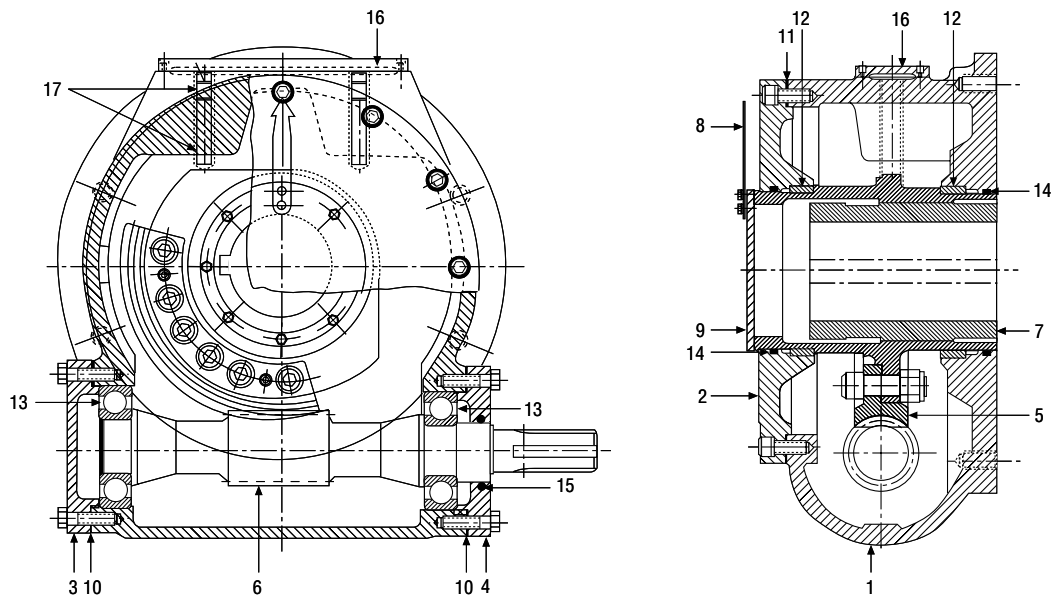


Table 4.2 – HBC-4 through -10 parts list (Refer to Figure 4.2)

Piece Number	Description
1	Housing
2	Housing Cover
3	End Cap
4	Through Cap
5	Drive Sleeve and Worm Gear
6	Worm Shaft
7	Spline Adapter
8	Pointer
9	Pointer Cap
10	End and Through Cap Gasket
11	Housing Cover Gasket
12	Drive Sleeve Bushing
13	Worm Shaft Bearing
14	Drive Sleeve O-ring
15	Worm Shaft O-ring
16	Stop Screw Cover
17	Stop Screw and Lockscrew

4.5 Spur Gear Attachments

All of the standard Limatorque spur gear attachments are made up of segments. The first segment is the 2.86:1 attachment. When the second segment is added to the first, the overall attachment ratio increases to between 8.5 and 12:1. When both the first and second attachment are added to the third, the overall gear ratio is between 19 and 38.9. The disassembly instructions described below will disassemble the 38.9:1 attachment. Steps 1 through 5 describe the 2.86:1 disassembly, steps 1 through 10 describe the 8.5 to 12:1 attachment disassembly, and the full instruction describes the 19 to 38.9:1 attachment disassembly.

Refer to Figure 4.3.

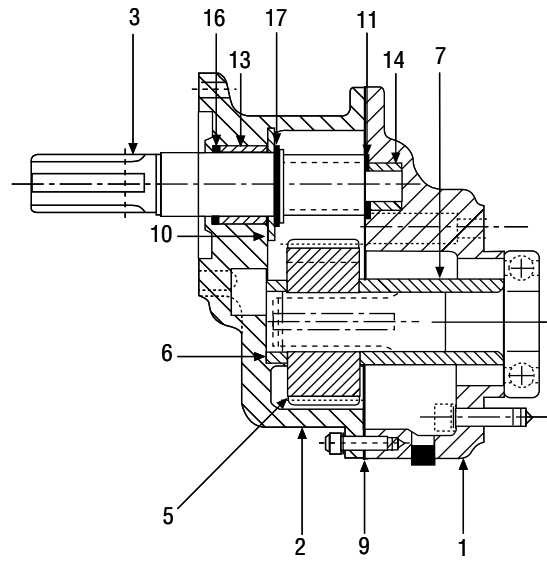
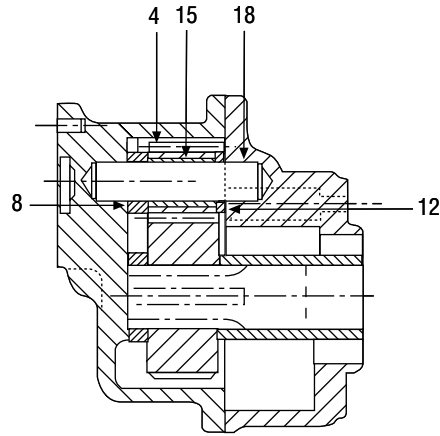
1. Remove the First Set Housing (piece #2).
2. Remove Input Shaft and Pinion (piece #3).
3. Remove Idler Gear (piece #4) and Idler Gear Spacer (piece #8).
4. Remove First Set Output Gear (piece #5).
5. If only 2.86:1 spur attachment is used you must next remove the Housing Adapter (piece #1) and Output Gear Spacer (piece #7).
6. Remove Second Set Housing Adapter (piece #20).
7. Remove Intermediate Shaft and Pinion (piece #22) carefully. Thrust Bearings (piece #27 and 28) are not captive on the shaft.
8. Remove Output Gear Collar (piece #25).
9. Remove Second Set Output Gear (piece #23) and Second Set Output Gear Spacer (piece #24).
10. If the spur attachment gear ratio is 8.5 to 12:1, remove Second Set Housing (piece #19).
11. If the spur attachment ratio is 19 to 38.9:1, remove Third Set Housing Adapter (piece #32).
12. Remove Intermediate Shaft and Output Pinion (piece #33) carefully. Thrust Bearings (piece #37 and 38) are not captive on the shaft.
13. Remove Third Set Output Gear Collar (piece #35).
14. Remove Third Set Output Gear (piece #34) and Spacer (piece #36).
15. Remove Third Set Housing (piece #31).

NOTE: In reassembling the spur gear attachments, follow all of the instructions in the reverse order, ensuring that all of the bearings indicated in the assembly drawings are intact and in good condition.

NOTE: When replacing gaskets, use gasket thickness of $1/32$ ".

Figure 4.3 – Spur gear attachments

Single reduction ratio – 2.86 to 1



Double reduction ratio – 12.00 to 1

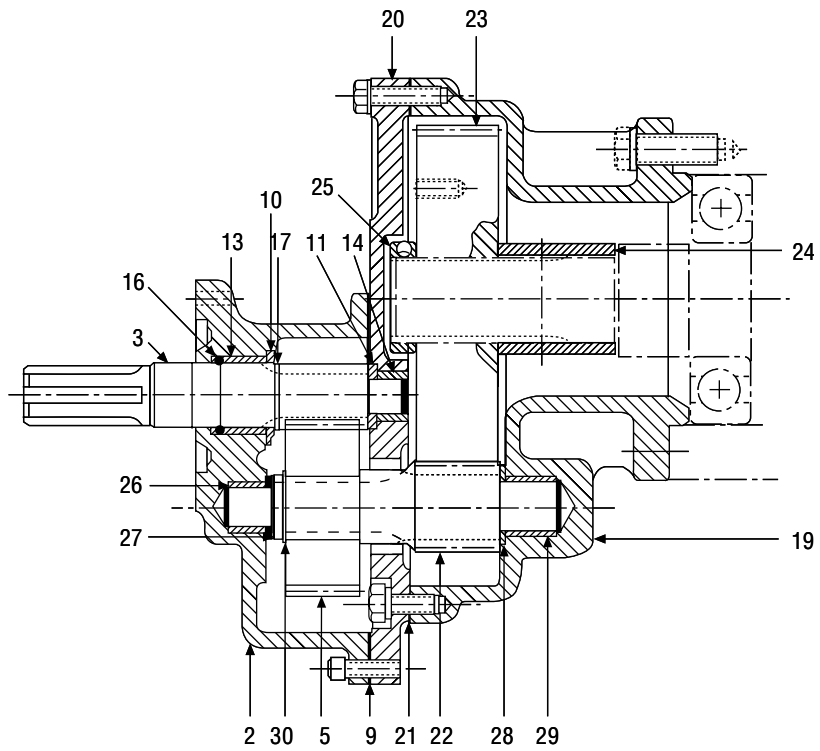


Figure 4.3 – Spur gear attachments (continued)

Triple reduction ratio – 38.90 to 1

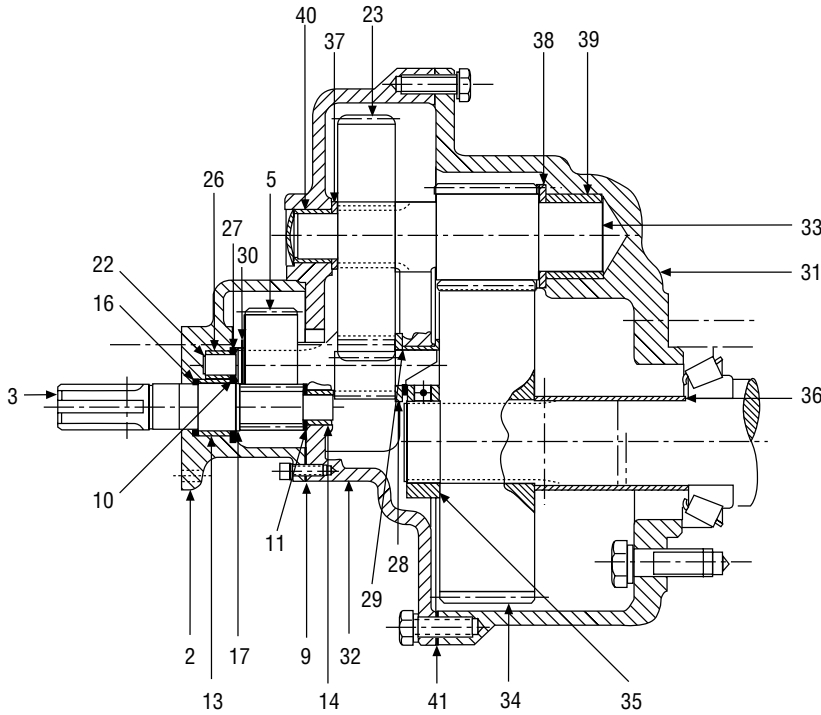


Table 4.3 – Spur gear attachments parts list (Refer to Figure 4.3)

Piece Number	Description	Piece Number	Description
1	First Set Housing Adapter	21	Second Set Housing Gasket
2	First Set Housing	22	Intermediate Shaft and Pinion
3	First Set Input Shaft and Pinion	23	Second Set Output Gear
4	Idler Gear	24	Second Set Output Shaft Spacer
5	First Set Output Gear	25	Second Set Output Gear Collar
6	First Set Collar	26	Intermediate Shaft Bearing
7	First Set Output Gear Spacer	27	Intermediate Shaft Thrust Bearing
8	Idler Gear Spacer	28	Intermediate Shaft Thrust Bearing
9	First Set Housing Gasket	29	Second Set Housing Bearing
10	Input Shaft Thrust Bearing	30	Intermediate Shaft Retaining Ring
11	Input Shaft Thrust Bearing	31	Third Set Housing
12	Idler Gear Thrust Bearing	32	Third Set Housing Adapter
13	First Set Housing Bearing	33	Intermediate Shaft and Output Pinion
14	First Set Housing Adapter Bearing	34	Third Set Output Gear
15	Idler Gear Bearing	35	Third Set Collar Output Gear
16	Input Shaft Quad Ring	36	Third Set Output Shaft Spacer
17	Input Shaft Retaining Ring	37	Output Pinion and Shaft Thrust Bearing
18	Idler Gear Shaft	38	Output Pinion and Shaft Thrust Bearing
19	Second Set Housing	39	Third Set Housing Bearing
20	Second Set Housing Adapter	40	Third Set Housing Adapter Bearing
		41	Third Set Housing Gasket

5

Setting Instructions for AWWA Input Shaft Stop

▲ CAUTION: Following these instructions exactly will prevent jamming or damaging the equipment.

Complies fully with AWWA Standard C504, latest revision.

Refer to Figures 5.1 and 5.2.

1. Remove Limit Stop Housing Cover (piece #9), Gear Frame Housing Cover (piece #10), and Gear Frame Through Cap (piece #11). Do not remove Gear Frame Retaining Plate (piece #48).
2. Note the position of the Racks (piece #19). The racks should be in the up position as shown in Figure 5.1A.
3. Note the position of the three (3) center punch marks on the end of the Input Shaft (piece #4). These center punch marks show the position of the lug on the Lug Sleeve (piece #5).
4. With the input shaft as shown in Figure 5.1B, pull the Idler Gear (piece #18) and hold it out of engagement with the Input Pinion (piece #47).
5. Rotate the handwheel on the Input Shaft (piece #4) clockwise until the valve reaches the extreme position of travel. Normally with clockwise handwheel rotation closing the valve, the valve will go to the fully closed position. If the valve is set up for clockwise handwheel rotation to open, the valve will go to the fully open position.
6. Place the Input Shaft (piece #4) in position as shown in Figure 5.1C.
7. Using a screwdriver, rotate the Input Pinion (piece #25A), as shown in Figure 5.1B clockwise until the Rack (piece #19A) moves downward as shown in Figure 5.1C. Do not rotate the pinion any further.
8. Push Idler Gear (piece #18) into engagement and rotate Input Shaft (piece #4) clockwise to check the setting. The lug should hit the Rack (piece #19) and prevent further handwheel rotation.

9. Reassemble Gear Frame Through Cap (piece #11) with two mounting screws to hold the Idler Gear (piece #18) engaged with the Input Pinion (piece #25A) and rotate the Input Shaft (piece #4) counterclockwise to the other extreme valve position. If the Rack (piece #19B) should trip to the down position as shown in Figure 5.1D before the valve reaches the end of travel, use the following procedure:
 - a. Turn the Input Shaft (piece #4) back one turn.
 - b. Pull Idler Gear (piece #18) out of engagement.
 - c. Place a screwdriver on the Input Pinion (piece #25B).
 - d. Rotate clockwise approximately 50 turns.
 - e. Push Idler Gear (piece #18) into engagement again and rotate handwheel counterclockwise until the valve goes to the extreme position of travel. Repeat as necessary until the valve reaches the point where the stop should be set.
10. With the valve in the position to be set, position the Input Shaft (piece #4) as shown in Figure 5.1D, hold the Idler Gear (piece #18) out of engagement, and with the screwdriver on the Input Pinion (piece #25B), rotate it counterclockwise until the Rack (piece #19B) moves as shown in Figure 5.1D. Do not rotate the pinion any further.
11. Push the Idler Gear (piece #18) into engagement and rotate Input Shaft (piece #4) counterclockwise to check setting. The lug should hit the Rack (piece #19B).
12. Reassemble Limit Stop Housing Cover (piece #9), Gear Frame Housing Cover (piece #10), and Gear Frame Through Cap (piece #11).
13. Open and close the valve fully to verify that position limit stops are set at the desired valve position.

NOTE: When the AWWA input shaft stop is supplied, the standard limit stops in the housing are also furnished. The housing limit stops should be adjusted to function as secondary stops by ensuring that the AWWA input stops engage first. Section 2 – Inspection, Installation, and Mounting Procedures in this manual provides instruction for setting the standard housing limit stops.

Figure 5.1 – AWWA input shaft stop (back view)

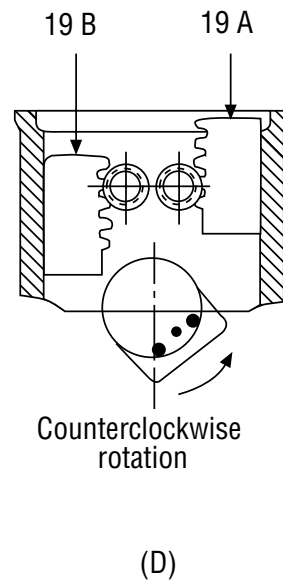
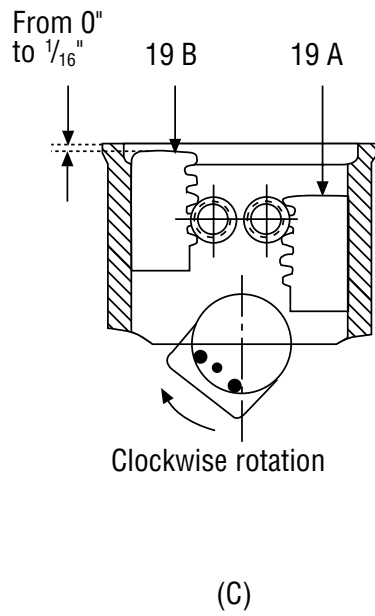
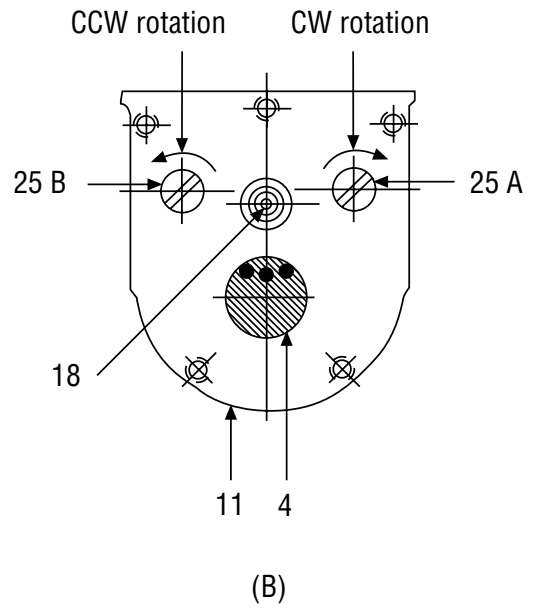
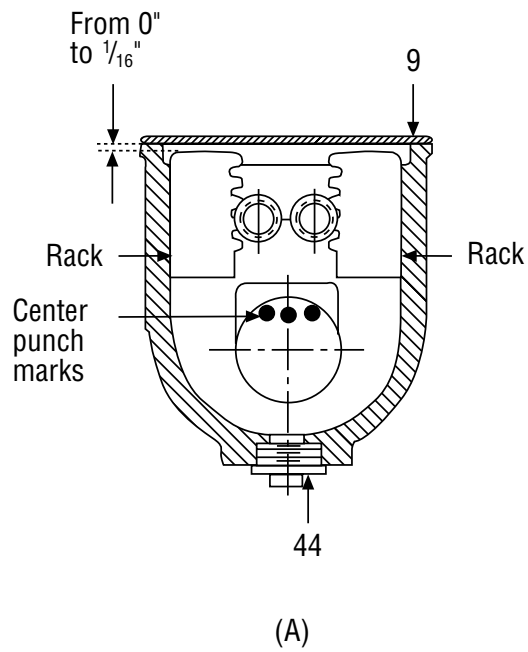


Figure 5.2 – AWWA input shaft stop (complete view)

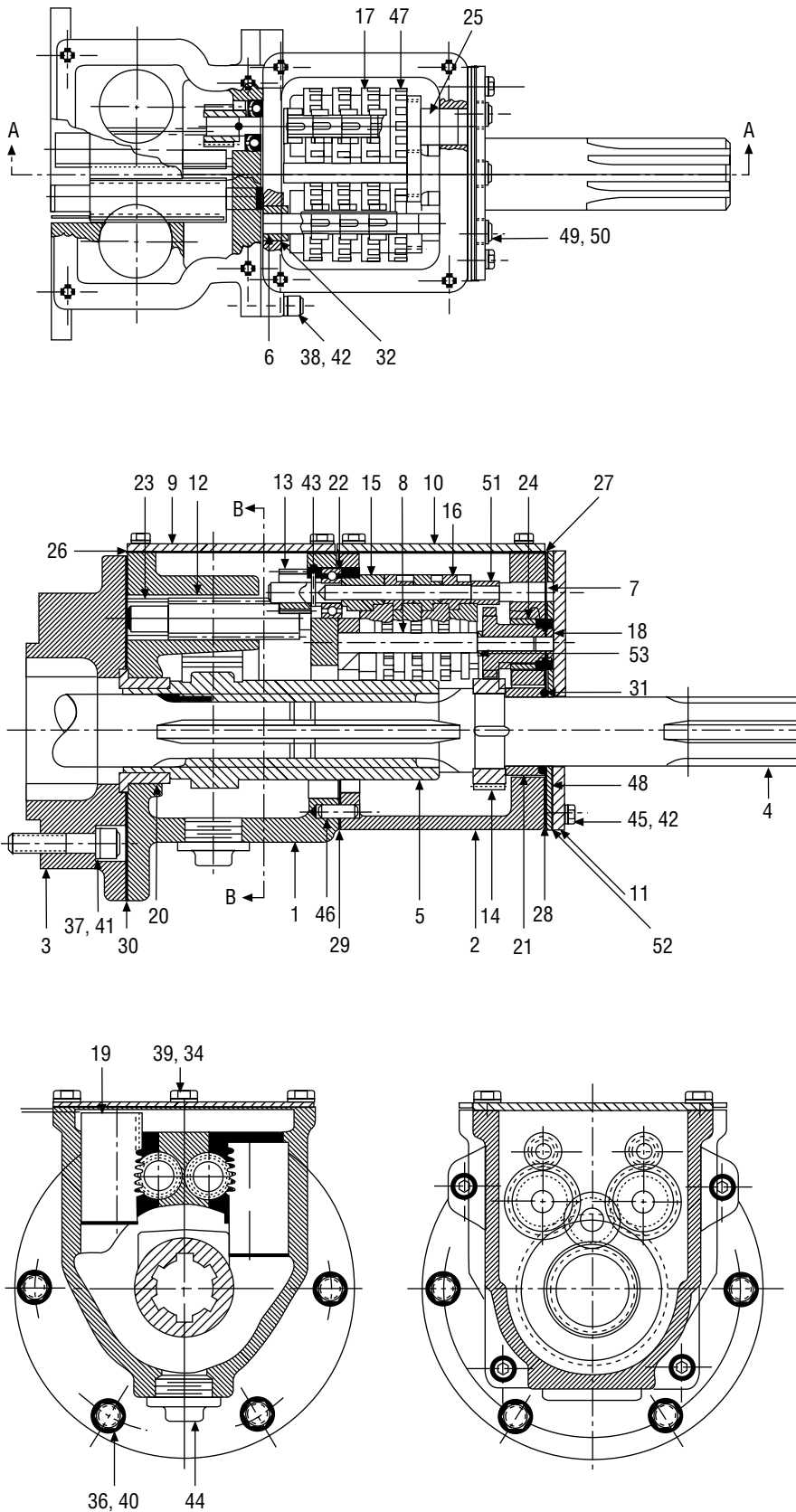


Table 5.1 – AWWA input shaft stop parts list (Refer to Figure 5.2)

Piece Number	Description	Piece Number	Description
1	Limit Stop Housing	28	Through Cap Gasket
2	Gear Frame	29	Housing Gasket
3	Limit Stop Housing Adapter	30	Adapter Gasket
4	Input Shaft	31	O-ring
5	Splined Lug Sleeve	32	Bushing
6	Intermittent Gear Shaft	34	Cap Screw Round Head #10 – 32" x 1/2" Long
7	Intermittent Pinion Shaft	35	Roll Pin 3/32" Diameter x 3/4" Long – Not Shown
8	Intermittent Drive Shaft	36	Cap Screw Hex Head 5/16" – 18" x 1" Long
9	Limit Stop Housing Cover	37	Cap Screw Socket Head 3/8" – 16" x 1 1/2" Long
10	Gear Frame Housing Cover	38	Cap Screw Socket Head 1/4" – 20" x 3/4" Long
11	Gear Frame Through Cap	39	Lockwasher #10
12	Rack Pinion	40	Lockwasher 5/16"
13	Pinion	41	Lockwasher 3/8"
14	Input Gear	42	Lockwasher 1/4"
15	Intermittent Stem Pinion	43	Roll Pin 1/8" Diameter x 5/8" Long
16	Intermittent Pinion	44	1" – 20 Drain Plug
17	Intermittent Gear	45	Cap Screw Round Head 1/4" – 20" x 1/2" Long
18	Idler Gear	46	Dowel Pin 1/4" Diameter x 5/8" Long
19	Rack	47	Input Pinion–Gear Assembly
20	Flanged Bushing	48	Gear Frame Retaining Plate
21	Input Shaft Bushing	49	1/4" – 20 x 7/16" Long Socket Head Cap Screw
22	Intermittent Stem Pinion Bearing	50	1/4" Lockwasher Hi-Collar
23	Rack Pinion Bearing	51	Pinion Spacer
24	Bushing	52	Through Cap Gasket
25	Input Pinion	53	Idle Gear Spacer
26	Housing Cover Gasket		
27	Gear Frame Cover Gasket		

Note: When the AWWA input shaft stop is used, the standard limit stop is also furnished.

6

How to Order Parts

To order parts or obtain further information about your Flowserve Limatorque HBC operators, contact your local Limatorque distributor sales office, or:

Flowserve Flow Control
Limatorque
5114 Woodall Road
P.O. Box 11318
Lynchburg, VA 24506-1318

Telephone (434) 528-4400
Fax (434) 845-9736

All inquiries or orders must be accompanied by the following information:

1. Operator size
2. Order number
3. Serial number



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Flow Control**

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*To find your local Flowserve representative,
visit www.flowserve.com or call USA 1 800 225 6989*

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